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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary**Application No.**

10/796,317

Applicant(s)

SMITH ET AL.

Examiner

JAMES HWA

Art Unit

2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection".

Specification

2. Specification is objected under 37 CFR 1.75 because the term "One computer-recordable storage medium" in claims 8-10, is not defined in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11-20 are rejected under 35 U.S.C. 101 because claims 11-20 contain no hardware. Thus, the claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-7, 11 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nareddy et al. (US Patent No. 7,107,338 B1, hereinafter "Nareddy") in view of in view of Carothers et al. (US Patent Application No. 2002/0016771 A1, hereinafter "Carothers").

As to claim 1, Nareddy teaches the claimed limitations:

"A method for grouping log file entries by session" as a method and system for providing customers with access to and analysis of interaction or usage data (e.g., navigation data collected at customer web sites or computer program event information)

is provided. The data warehouse server may analyze low-level navigation events (e.g., each HTTP request that is received by the customer web site) to identify high-level events (e.g., a user session) (column 1, lines 27-60).

“Storing a log file of entries in a memory, each of said entries identifying a client request to a server” as the interaction or usage data, hereinafter interaction data or event data, may be stored in the log files and supplemented with data from other sources, such as product databases and customer invoices (column 1, lines 27-60).

“Retrieving a subset of log file entries from the memory” as the retrieved category type definition information may already be separated into separate version groups. If it is possible to determine from the information received that a subset of the version groups will apply to all of the log entries in the log file, the routine could discard (or not initially retrieve) the definitions that are not in those version groups (column 49, lines 33-58).

“Processing each entry in the memory to identify entries in the subset of log file entries that belong to a complete client session” as the parse log data routine that implements the main routine of parser in one embodiment. The routine processes each entry in the log file based on the parser configuration data. The routine filters out certain log entries, normalizes the attribute values of the log entries, and generates entries in the dimension tables for the attributes of the log entries. After processing all the log entries, the parser identifies user sessions and generates various statistics. The routine invokes the generate dimensions routine to update the dimension tables based on the selected log entry and to add an entry into the log entry fact table. The routine updates

the statistics for the log file. For example, the routine may track the number of log entries that have been filtered out. The routine then loops to select the next log entry, the routine outputs the log file statistics, then the routine invokes the identify sessions routine that scans the log entry table to identify the user sessions and updates a session dimension table and generate aggregate statistics routine to generate various statistics and then completes (column 13, lines 10-49). If multiple definitions are allowed or if the selected definition does not match the log entry, the routine continues to determine if there are more category type definitions in the selected version group. If multiple definitions are not allowed per log entry, the routine instead continues determine if there are more log entries to be processed. If so, the routine returns to select the next log entry for processing, If there are more log files, the routine continues, and if not then the routine continues and ends (column 49, lines 9-23).

Nareddy does not explicitly teach the claimed limitation "grouping entries in the subset that belong to a complete client session".

Carothers teaches each transaction entry is examined to determine a type of function for the transaction, each transaction encountered in the examination is written as a line to an output file, and all transactions encountered are grouped by transaction according to a data column of the transaction journal record that refers back to a session log record. The unique integer key value is assigned to each individual transaction record in the ASCII text output files and written to a pre-defined column in each output file for loading to the relational database system. In addition, transaction times are computed for each of the individual transaction records and added to the

corresponding output file (page 1, paragraph 0010; see also figure 15, Session Summary Report).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy and Carothers before him/her, to modify Nareddy grouping entries in the subset that belong to a complete client session because that would provide a method for managing information concerning financial transactions for home banking and develops messages which go into the database easily and efficiently as taught by Carothers (page 1, paragraph 0004).

As to claim 2, Nareddy teaches the claimed limitations:

"A complete client session is identified by identifying all entries in the subset that are associated with a particular client session and that include both a beginning entry and an end entry" as if a customer requests a report showing information that includes a category type definition such as the customer specifies a date range for the report that begins before Jan. 31, 2001 and ends after that date, it would be useful to indicate that the reason the data for the event after the date Jan. 31, 2001 drops to zero is due to the new version of the web site rather than to a lack of customer interest in the digiMine data enhancement services. Alternately, reports that include such a category type definition could be limited by the user interface of the report requesting functionality to the effective dates of the category (column 45, line 8-20).

As to claim 3, Nareddy teaches the claimed limitations:

“An end entry is identified as any entry that corresponds to a logout request” as Table 2 is an example portion of parser configuration data. The event type definitions map a site identifier, URI pattern, and query string pattern to an event type and value. EVENTDEFINITION= Logout, Logout, 1, [prefix]=/registration/logout.asp, ,.

Also, Carothers teaches in order to minimize the effect of customer time-outs, for valid sessions that end due to a customer timeout, the session length of each of those sessions is reduced by a predetermined time (page 9, paragraph 0120; see also figure 16). Sessions w/timeout-percent of all is the number of valid customer sessions that ended due to a session time out as a percentage of all valid sessions; sessions w/other end-count is the number of valid customer sessions that ended due to some reason other than a customer sign-off or timeout (page 10, paragraph 0125).

As to claim 4, Nareddy teaches the claimed limitations:

“An end entry for a client session is identified as any entry associated with that client session that has no other entries for that client session that occur within a session expiration window” as the identify sessions component processes the parsed log file data stored in the local data warehouse to identify user sessions. A user session generally refers to the concept of a series of web page accesses that may be related in some way, such as by temporal proximity (column 8, lines 52-60). This web page is shown displayed within a web browser display window. The displayed web page includes multiple frames that are each able to display different content, including a

control frame with various user-selectable controls and display frames in which customer-specific information is displayed. In the illustrated embodiment, the URL indication corresponds to the information displayed in the display frames. The path portion of the indicated URL specifies an executable Active Server Page program on the server that will supply the content displayed in the display frames, and the indicated URL also includes a query string portion that will be supplied as input to the executable program (column 21, lines 30-40).

As to claim 5, Nareddy teaches the claimed limitation:

"an end entry for a client session is identified as any entry having a first timestamp value, where the difference between first timestamp value and a second timestamp value associated with a subsequent entry in the subset of log files exceeds a timeout value" as the log file contains lines that are either directives or entries. An entry corresponds to a single HTTP transaction and consists of a sequence of fields (e.g., integer, fixed, URL, date, time, and string). The meaning of the fields in an entry is specified by a field directive specified in the log file (column 9, lines 12-25).

Also, Carothers teaches in order to minimize the effect of customer time-outs, for valid sessions that end due to a customer timeout, the session length of each of those sessions is reduced by a predetermined time, such as 6 minutes (the standard session time out value). The time-out value is configurable by the business (page 9, paragraph 0120). Sessions w/timeout-percent of all is the number of valid customer sessions that ended due to a session time out as a percentage of all valid sessions; sessions w/other

end-count is the number of valid customer sessions that ended due to some reason other than a customer sign-off or timeout (page 10, paragraph 0125).

As to claim 6, Nareddy does not explicitly teach the claimed limitation "outputting all entries in the subset of log file entries that do not belong to a complete client session as raw log data".

Carothers teaches the definition of attempted transactions includes both successfully completed and unsuccessfully completed transactions. Successful transactions mean those home banking system functions/transactions that customers have successfully completed. Each successful transaction has a transaction completion activity log record with Completion Status Code=0 (Transaction successfully completed). Failed transactions mean transactions that have Completion Status Code (page 8, paragraph 0117; see also figure 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy and Carothers before him/her, to modify Nareddy log file entries that do not belong to a complete client session as raw log data because that would provide a method for managing information concerning financial transactions for home banking and develops messages which go into the database easily and efficiently as taught by Carothers (page 1, paragraph 0004).

As to claim 7, Nareddy does not explicitly teach the claimed limitation "outputting as raw log data all entries in the subset of log file entries that belong to an incomplete client session which has a beginning entry but no end entry".

Carothers teaches successful financial transactions is the number of financial transactions that were attempted and completed successfully; successful non-financial transactions is the number of non-financial transactions that were attempted and completed successfully; and failed transactions is the number of both financial and non-financial transactions that were attempted but did not complete successfully (page 9, paragraph 0120).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy and Carothers before him/her, to modify Nareddy log file entries that belong to an incomplete client session because that would provide a method for managing information concerning financial transactions for home banking and develops messages which go into the database easily and efficiently as taught by Carothers (page 1, paragraph 0004).

As to claim 11, Nareddy teaches the claimed limitations:

"A system for session-based processing of log files using a data processing system and network session data collected from one or more users, the system comprising a log file collection system for collecting a plurality of server request entries, wherein a server request entry comprises a session identifier; a processing engine to process a subset of the plurality of server request entries to group the server request

entries by session using the session identifier in each server request entry" as the data processor component includes a parser, data storage area, and a loader. The data processor component inputs parser configuration data and a log file and updates the main data warehouse. The parser configuration data may include a mapping of actual web sites to logical sites and a mapping of a combination of Uniform Resource Identifiers (URIs) and query strings of the log entries to page definitions (e.g., categories) and event definitions. The parser processes the entries of the log file to generate facts and dimensions to eventually be stored in the main data warehouse. The parser identifies events in accordance with the parser configuration data. The parser includes a filter log entry component, a normalize log entry component, a generate dimensions component, an identify sessions component, and generate aggregate statistics component. The filter log entry component identifies which log entries should not be included in the main data warehouse. For example, a log entry that has an invalid format should not be included. The normalize log entry component normalizes the data in a log entry (column 8, lines 26-49; see also figure 3).

the contained information for each entry further includes information related to a manner of identifying a web site server that responded to the request for that entry, wherein each of the interaction type definitions is associated with a logical site definition that specifies a manner of identifying a web site server related to the web site and that specifies times when that logical site definition is applicable (claim 29).

Nareddy does not explicitly teach the claimed limitation "group the server request entries by session".

Carothers teaches each transaction entry is examined to determine a type of function for the transaction, each transaction encountered in the examination is written as a line to an output file, and all transactions encountered are grouped by transaction according to a data column of the transaction journal record that refers back to a session log record. The unique integer key value is assigned to each individual transaction record in the ASCII text output files and written to a pre-defined column in each output file for loading to the relational database system. In addition, transaction times are computed for each of the individual transaction records and added to the corresponding output file (page 1, paragraph 0010; see also figure 15, Session Summary Report).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy and Carothers before him/her, to modify Nareddy group the server request entries by session because that would provide a method for managing information concerning financial transactions for home banking and develops messages which go into the database easily and efficiently as taught by Carothers (page 1, paragraph 0004).

As to claim 13, Nareddy teaches the claimed limitations:

"The processing engine uses a sliding memory window to process the subset of the plurality of web server request entries" as this web page is shown displayed within a web browser display window. The displayed web page includes multiple frames that are each able to display different content, including a control frame with various user-

selectable controls and display frames in which customer-specific information is displayed. In the illustrated embodiment, the URL indication corresponds to the information displayed in the display frames. The path portion of the indicated URL specifies an executable Active Server Page program on the server that will supply the content displayed in the display frames, and the indicated URL also includes a query string portion that will be supplied as input to the executable program (column 21, lines 30-40).

As to claim 14, Nareddy teaches the claimed limitations:

"A parser for further analysis the web server request entries that have been grouped by session to generate a user session history" as web sites typically collect extensive information on how its users use the site's web pages. This information may include a complete history of each HTTP request received by and each HTTP response sent by the web site. The web site may store this information in a navigation file, also referred to as a log file or click stream file (column 3, lines 25-35).

As to claim 15, Nareddy teaches the claimed limitations:

"the processing engine generates an output file containing web server request entries corresponding to one or more complete user sessions" as the higher level category of a web page may be identified using a mapping of web page URIs to categories. These categories may be stored in a category dimension table. Also, certain facts, such as the collection of log entries that comprise a single user web access

session or visit, may only be derivable by analyzing a series of log entries (column 6, lines 29-36).

As to claim 16, Nareddy does not explicitly teach the claimed limitation "the processing engine generates an output file containing web server request entries corresponding to one or more incomplete user sessions".

Carothers teaches successful non-financial transactions is the number of non-financial transactions that were attempted and completed successfully; and failed transactions is the number of both financial and non-financial transactions that were attempted but did not complete successfully (page 9, paragraph 0120).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy and Carothers before him/her, to modify Nareddy log file entries that belong to an incomplete client session because that would provide a method for managing information concerning financial transactions for home banking and develops messages which go into the database easily and efficiently as taught by Carothers (page 1, paragraph 0004).

As to claim 17, Nareddy does not explicitly teach the claimed limitation "the processing engine generates an output file containing web server request entries corresponding to one or more user sessions that do not include an end session entry".

Carothers teaches the definition of attempted transactions includes both successfully completed and unsuccessfully completed transactions. Failed transactions

mean transactions that have Completion Status Code (page 8, paragraph 0117; see also figure 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy and Carothers before him/her, to modify Nareddy log file entries that do not belong to a complete client session as raw log data because that would provide a method for managing information concerning financial transactions for home banking and develops messages which go into the database easily and efficiently as taught by Carothers (page 1, paragraph 0004).

As to claim 18, Nareddy teaches the claimed limitations:

"A system for parsing web site logs one session at a time, comprising: means for storing network session data from at least one server log file" as a system for providing customers with access to and analysis of interaction or usage data (e.g., navigation data collected at customer web sites or computer program event information) is provided. A data warehouse system collects customer data from the customer web sites and stores the data at a data warehouse server. The customer data may include application event data (e.g., click stream log files), user attribute data of users of the customer web site (column 5, lines 26-31).

"Means for reading a subset of the network session data" as the subset of Internet sites that comprise the World Wide Web network also supports a standard protocol for requesting and receiving web page documents (column 1, lines 44-46).

"Means for processing the subset of the network session data" as the data viewer may be a web browser, the data warehouse server includes a data receiver component, the data processor component, the data warehouse, and decision support system applications. The data receiver component receives customer data sent by the data collection components executing at the various customer web sites. The data processor component processes the customer data and stores it in the data warehouse. The decision support system application provides the customer with tools for analyzing and reviewing the customer data that is stored in the main data warehouse (column 7, lines 7-17).

"Means for generating a first output file containing network session data" as the customer servers and the data warehouse server are interconnected via the Internet. Customer components executing on a customer server includes a data collection component and a data viewer. The data viewer may reside on a client computer of the customer, rather than a server. The data collection component collects the customer data from the storage devices of the customer servers. The data viewer provides access for viewing of data generated by the decision support system applications of the data warehouse server (column 7, lines 3-12).

"Means for parsing said first output file" as the data processor component may have a parser component and a loader component. The parser of the data processor parses and analyzes a log file and stores the resulting data in a local data warehouse that contains information for only that log file (column 6, lines 5-10).

Nareddy does not explicitly teach the claimed limitation "grouped by session".

Carothers teaches each transaction entry is examined to determine a type of function for the transaction, each transaction encountered in the examination is written as a line to an output file, and all transactions encountered are grouped by transaction according to a data column of the transaction journal record that refers back to a session log record (page 1, paragraph 0010; see also figure 15, Session Summary Report).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy and Carothers before him/her, to modify Nareddy group by session because that would provide a method for managing information concerning financial transactions for home banking and develops messages which go into the database easily and efficiently as taught by Carothers (page 1, paragraph 0004).

As to claim 19, Nareddy teaches the claimed limitations:

"means for reading a subset of the network session data comprises a sliding window" as this web page is shown displayed within a web browser display window. The displayed web page includes multiple frames that are each able to display different content, including a control frame with various user-selectable controls and display frames in which customer-specific information is displayed. In the illustrated embodiment, the URL indication corresponds to the information displayed in the display frames. The path portion of the indicated URL specifies an executable Active Server Page program on the server that will supply the content displayed in the display frames,

and the indicated URL also includes a query string portion that will be supplied as input to the executable program (column 21, lines 30-40).

4. Claims 8-10, 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nareddy et al. (US Patent No. 7,107,338 B1) in view of in view of Carothers et al. (US Patent Application No. 2002/0016771 A1) and Dow et al. (US Patent Application No. 2004/0221311 A1, hereinafter "Dow").

As to claim 8, Nareddy teaches the claimed limitations:

"An article of manufacture having at least one recordable medium having stored thereon executable instructions and data which, when executed by at least one processing device, cause the at least one processing device" as a method, system and computer-readable medium for analyzing interaction or usage data, such as for customers (abstract). The data warehouse system includes customer components that execute on the customer servers and data warehouse components that execute on the data warehouse server. The customer servers and the data warehouse server are interconnected via the Internet (column 7, lines 1-5).

"Scan each record in the ring buffer to identify a user session for said record and to identify any start or end records in the ring buffer" as the data warehouse server may analyze low-level navigation events (e.g., each HTTP request that is received by the customer web site) to identify high-level events (e.g., a user session). The data warehouse server then stores the converted data into a data warehouse (column 5, lines 56-61). The higher level category of a web page may be identified using a

mapping of web page URIs to categories. These categories may be stored in a category dimension table. Also, certain facts, such as the collection of log entries that comprise a single user web access session or visit, may only be derivable by analyzing a series of log entries (column 6, lines 25-36).

Nareddy does not explicitly teach the claimed limitation "Read a plurality of records from a file system into a ring buffer, where said plurality or records comprises a subset of all records in the file system".

Carothers teaches a system for managing information concerning financial transactions that produces reports, for example, of function usage and that enables grouping of certain functions by their category (page 1, paragraph 0007). One or more transaction journal logs for one or more financial institution applications written in a pre-defined binary format are read to isolate a transaction message in a message buffer. The message contents are parsed out and written out into a flat-text file of SQL records into an output file loadable into a database re-using at least one Visual Basic class used for creating the transaction journal log, and the output file is stored in the database (page 1, paragraph 0011). The called method invokes an isolating the next transaction journal message API to position the next transaction message in the transaction journal log, read the transaction message contents, and insert the transaction message in a static buffer (e.g. ring buffer) (page 2, paragraph 0014).

There are a number of definitions relevant to reporting. For example, for reporting purposes, users are categorized by their usage of the home banking system. FIG. 11 is

a table which shows examples of categories of users according to usage of a home banking system (page 8, paragraph 0115).

Although Nareddy teaches the routine creates a mapping of the local identifier (e.g., index into the local dimension table) of the selected entry to the main identifier (e.g., index into the main dimension table) for that selected entry (column 17, line 65 to column 18, line 3).

Nareddy does not explicitly teach the claimed limitation "allocate, for each identified user session, an index to identify all records in the ring buffer that are associated with the identified user session and to identify all start or end records; and process the index to group all records in the ring buffer belonging to a complete user session, to output the grouped records for further analysis".

Carothers teaches each transaction entry is examined to determine a type of function for the transaction, each transaction encountered in the examination is written as a line to an output file, and all transactions encountered are grouped by transaction according to a data column of the transaction journal record that refers back to a session log record (page 1, paragraph 0010; see also figure 15, Session Summary Report).

Also, Dow teaches the event buffer module receives and aggregates events from an event index. In one embodiment, the event buffer receives selected events from the content navigator module that it has read from an index file. The event buffer module stores a plurality of events for analysis. In one embodiment, the event buffer module buffers event data for a set period of time, such as 2 minutes. For example, the event

buffer module may include a 2-minute ring buffer. In an alternate embodiment, the event buffer module buffers event data for an entire video program. In still another embodiment, the event buffer module stores a set number of events before the earliest stored event data is pushed off the event stack to make room for a new event. The other modules in the group detector module analyze the data stored by the event buffer module (page 14, paragraph 0112).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy, Carothers and Dow before him/her, to modify Nareddy process the index to group all records in the ring buffer belonging to a complete user session because that would provide improved navigation of video content recorded from a television broadcast and effective in quickly navigating through commercials as taught by Dow (page 2, paragraph 0010-0011).

As to claim 9, Nareddy teaches the claimed limitations:

"the index comprises: a session record for each identified user session for keying into the ring buffer to identify log records associated with said identified user session" as When the data warehouse server receives customer data, it converts the customer data into a format that is more conducive to processing by decision support system applications used to analyze customer data. For example, the data warehouse server may analyze low-level navigation events (e.g., each HTTP request that is received by the customer web site) to identify high-level events (e.g., a user session). The data

warehouse server then stores the converted data into a data warehouse (column 5, lines 53-66).

“a hash table for keying into the session record based upon session key information; a linked listing of last seen log records for each session; and a linked list of first seen log records for each session” as the higher level category of a web page may be identified using a mapping of web page URIs to categories. These categories may be stored in a category dimension table. Also, certain facts, such as the collection of log entries that comprise a single user web access session or visit, may only is derivable by analyzing a series of log entries (column 6, line 30-37). Each entry in a dimension table includes the attribute value (e.g., user identifier) and a hash value (column 14, lines 57-61).

Each category includes a unique ID listed that corresponds to the IDs listed in table. In addition, hierarchy information for the categories is provided via column of table, in which each category can optionally have the ID of another category listed as its parent category (column 47, lines 45-55). If the content set is a web site, processing begins at the home web page for the web site, and the various links on the web pages of the web site are variously followed (or crawled) to identify all of the available web pages and the relationships indicating what web pages have links to what other web pages (column 51, lines 39-47).

As to claim 10, Nareddy teaches the claimed limitations:

"the ring buffer implements a sliding window to process all of the log records in the file system into complete user sessions by sequentially adding and removing log records to the ring buffer until all of the log records in the file system have been processed" as this web page is shown displayed within a web browser display window. The displayed web page includes multiple frames that are each able to display different content, including a control frame with various user-selectable controls and display frames in which customer-specific information is displayed. In the illustrated embodiment, the URL indication corresponds to the information displayed in the display frames. The path portion of the indicated URL specifies an executable Active Server Page program on the server that will supply the content displayed in the display frames, and the indicated URL also includes a query string portion that will be supplied as input to the executable program (column 21, lines 30-40).

Nareddy does not explicitly teach the claimed limitation "the ring buffer".

Dow teaches the event buffer module receives and aggregates events from an event index. In one embodiment, the event buffer receives selected events from the content navigator module that it has read from an index file. The event buffer module stores a plurality of events for analysis. In one embodiment, the event buffer module buffers event data for a set period of time, such as 2 minutes. For example, the event buffer module may include a 2-minute ring buffer (page 14, paragraph 0112).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy, Carothers and Dow before him/her, to modify Nareddy all records in the ring buffer belonging to a complete

user session because that would provide improved navigation of video content recorded from a television broadcast and effective in quickly navigating through commercials as taught by Dow (page 2, paragraph 0010-0011).

As to claim 12, Nareddy teaches the claimed limitations:

"the processing engine uses a plurality of data structures to group the web server request entries by session, said plurality of data structures comprising: a per-session record for keying into the ring buffer, a hash table for keying into the per-session records, a linked list of last processed web server request entries for each session, and a linked list of first processed web server request entries for each session" as the parser component may separate the data parsing information entries into separate version groups before processing of the log entries. In addition, new versions of data parsing information can be used for reasons other than changes to a web site or other content set, such as a change in event types or category types of interest to a customer (column 44, lines 60-67). These categories may be stored in a category dimension table. Also, certain facts, such as the collection of log entries that comprise a single user web access session or visit, may only be derivable by analyzing a series of log entries (column 6, line 30-37). Each entry in a dimension table includes the attribute value (e.g., user identifier) and a hash value (column 14, lines 57-61). This web page is shown displayed within a web browser display window. The displayed web page includes multiple frames that are each able to display different content (column 21, lines 30-40).

Nareddy does not explicitly teach the claimed limitation "A ring buffer for storing the subset of the plurality of web server request entries".

Dow teaches the event buffer module receives and aggregates events from an event index. In one embodiment, the event buffer receives selected events from the content navigator module that it has read from an index file. The event buffer module stores a plurality of events for analysis. In one embodiment, the event buffer module buffers event data for a set period of time, such as 2 minutes. For example, the event buffer module may include a 2-minute ring buffer (page 14, paragraph 0112).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy, Carothers and Dow before him/her, to modify Nareddy all records in the ring buffer belonging to a complete user session because that would provide improved navigation of video content recorded from a television broadcast and effective in quickly navigating through commercials as taught by Dow (page 2, paragraph 0010-0011).

As to claim 20, Nareddy does not explicitly teach the claimed limitation "Means for reading a subset of the network session data comprises a ring buffer".

Dow teaches the event buffer module receives and aggregates events from an event index. In one embodiment, the event buffer receives selected events from the content navigator module that it has read from an index file. The event buffer module stores a plurality of events for analysis. In one embodiment, the event buffer module

buffers event data for a set period of time, such as 2 minutes. For example, the event buffer module may include a 2-minute ring buffer (page 14, paragraph 0112).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the teachings of Nareddy, Carothers and Dow before him/her, to modify Nareddy all records in the ring buffer belonging to a complete user session because that would provide improved navigation of video content recorded from a television broadcast and effective in quickly navigating through commercials as taught by Dow (page 2, paragraph 0010-0011).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Hwa whose telephone number is 571-270-1285. The examiner can normally be reached on 8:00 – 5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Customer Service Representative or access to the automated information system, call
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